

GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

LITERATURE SURVEY

TEAM MEMBERS:

SRINITHYA M

SOWMIYA D

SANJAI S

SANTHOSH A

INTRODUCTION

The use of gas causes serious issues in both the home and the workplace. Inflammable gases like liquidised petroleum gas (LPG), which are utilised excessively at home and at work. The destruction caused by the gas leak to human lives and cultural heritage is irreparable. Keeping this in mind, we made the decision to create an inspection system that detects gas leaks and safeguards workplaces by taking the appropriate precautions at the appropriate moment. This system gives details like how sensors in the project are used to detect gas leaks and switch on the buzzer for danger notification as soon as they are detected. Buzzer is a blatant sign of a gas leak. The GSM alerting message was sent to the person in charge of it by the GSM upon the discovery of the dangerous gas. The importance of finding the gas leak and stopping it are both significant. This project's primary goal is to develop a highly accurate, low-cost system that can detect gas leaks, alert nearby individuals via buzzer beeps, and send an SMS to the project's responsible party for proactive safety measures.

PROPOSED METHOD

The existence of dangerous LPG gas leaks in a home, place of business, or a gas storage container that uses optimal characteristics. In order to accomplish this, a buzzer alarm is vibrated by an alarm device. Buzzer provides an aural indication of the LPG volume's presence. The essence of propane, isobutane, LPG, and even smoke can all be detected with the sensors. The sensor's ability to combine sensitivity with response time is a benefit. The LPG sensor's output changes to an active low (logic-0) condition if it detects a gas leak at the workplace or at home. In the project, an Arduino UNO is utilised, and the Arduino picks up on low signals and detects gas leaks. The LCD and buzzer are turned on by the Arduino UNO. After turning on the GSM modem, it continues to send SMS messages to the cellphone numbers listed in the source code of the software to notify people to danger.

RELATED WORKS

Different authors have proposed to avoid gas leakage using various methods. Rohan Chandra Pandey, Manish Verma, Lumesh Kumar Sahu uses a real time gas leakage monitoring and sensing the output levels of gas using Internet of Things (IOT) Based Gas Leakage Monitoring and Alerting System with MQ-2 Sensor . Chaitali Bagwe, Vidya Ghadi, Vinayshri Naik, Neha Kunte provides constant monitoring and detection of gas leakage along with storage of data in database for predictions and analysis. The IOT components used helps in making

the system much more cost effective in comparison with traditional Gas detector systems. A discussion on how the aims and objectives are met is presented by Rohan Chandra Pandey, Manish Verma, Lumesh Kumar Sahu, Saurabh Deshmukh . An overall conclusion IOT based toxic gas detector is it has become more efficient, more applicable to today's applications and smarter. They have used Internet of Things (IoT) Based Gas Leakage Monitoring and Alerting System with MQ-6 Sensor .

CONCLUSION

We can infer from the project's performance that the system's detection of LPG gas leakage is remarkable. Useful for both residential and commercial purposes. We can use this technique to save lives in dangerous situations. The GSM module indicates an alert. Propane, CO₂, and other gases are detected by a sensor node. Power usage and transmission range estimates are made. The sensor was constructed using straightforward techniques and an Arduino UNO Micro controller. Node-Red is an open-source visual editor for connecting and communicating within IoT elements. Watson helps organizations predict future outcomes, automate complex processes, and optimize employees' time.

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